Victor Busa

Computer Vision Engineer

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TECHNICAL SKILLS

Programming	Python, Shell, Go, C++, ASM, Javascript, HTML5, CSS3
Framework/Libraries	Scikit-learn, Pandas, Numpy, Numba (CUDA), OpenCV, TensorFlow (1 and 2), Pytorch, JQuery, Node.js, Express.js
Others	Docker, AWS, Computer vision, Math, Statistics, Jira, Git/GitHub, LaTeX, Agile Methods, Reinforcement Learning
Languages	French (Native), English (Professional level), Chinese (HSK5)
Hobbies	coding, reading research papers, video editing, sport, practice Chinese

WORK EXPERIENCE

Meero | Computer Vision Engineer — Paris, France | *December 2018 -*

- Implemented several unsupervised and supervised algorithms for Alpha Matting
- Created 2 Neural Networks with attention-based mechanism to tackle the task of Image Inpainting
- Created 2 A.I Sky replacement algorithms on par with **Adobe** and **Luminar** solutions:
  - One fully automated algorithm currently in Production
  - One standalone application with a GUI (Frontend: HTML/CSS/JS, Backend: Python)
- Created an attention-based neural-network with a backend API for automatic background removal
- Demonstrated SoTa results on SuperResolution and Denoising tasks with GAN training.
- Ported several functions using CUDA to speed-up images pre-processing and post-processing
- Developed an energy-based segmentation algorithm in CPython (C++ with Python bindings)

Stack: Python, Docker, AWS, TensorFlow (1 & 2), Pytorch, C++, CUDA, Javascript, HTML/CSS, Git, JSX

Sinequa | NLP Engineer — Paris, France | April 2018 – September 2018

- Implemented an unsupervised Neural Network to detect topical trends over time
- Implemented the ExpandRank algorithm in a distributed fashion using Spark and Scala
- Analyzed shortcomings of the Neural Network and proposed ideas to tackle them

Stack: Python, GCP, TensorFlow 1, Spark, Scala, Git

Capgemini | Fullstack Developer — Paris, France | *February 2016 – April 2017*

- Designed new backend functionalities in C# following Agile principles
- Worked closely with the UI/UX to redesign the FrontEnd in a Responsive manner
- Improved numerous KPI: Response time by 100%, ROI by 23 %.

Stack: C#, ASP.net, Javascript, HTML, CSS, Jquery, SVN, Jira

Capgemini | Javascript Developer — Paris, France | *February 2015 – April 2016*

- Created a JavaScript content management framework
- Ensured the deployment of the framework on all the projects
- Improved the productivity on all the projects using the framework by 80%

Stack: Javascript, AcroJs, Node.js, Express.js, XPath

PERSONAL PROJECTS

Reinforcement Learning Projects *September 2018 – February 2019*

- Implemented several Reinforcement learning algorithms: github.com/Twice22/HandsOnRL
- Implemented the AlphaGo Zero paper from scratch: github.com/Twice22/AlphaGoReplica
- Wrote several articles about A.I. algorithms for board games: twice22.github.io

Stack: Python, TensorFlow 1, LaTeX, Markdown

Stanford Projects *February – May 2017*

- Implemented Skip-Gram, BatchNorm, Dropout, Convolutional Layer in vanilla Python
- Implemented a style transfer Neural Network
- Fooled a neural network for image recognition by changing only a few pixels in an image
- Finished all the assignments and provided detailed explanations on my blog

Stack: Vanilla Python, TensorFlow 1

EDUCATION

ENS Paris-Saclay – Master MVA (Highest honors) *September 2018*

Courses taken: Convex Optimization, Probabilistic Graphical Models, Reinforcement Learning, Object Recognition, Statistical Learning, Unsupervised Learning, Deep Learning, Natural Language Processing, Kernel Methods, Curse of dimensionality, Prediction for sequential learning

Online Courses: *February 2015 – May 2016*

- Udacity Artificial Intelligence Nanodegree
- Stanford CS224n & CS231n
- Coursera Machine learning and Probabilistic Graphical Model